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ABSTRACT

This Digest defines student engagement and describes various methods used to measure it, both in empirical research studies and at the classroom level. Student engagement has been defined in various ways, but it is evident that students who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. The use of metacognitive strategies may be taken to indicate active task engagement, while the use of shallow strategies may be taken to indicate superficial engagement. The most common way that student engagement is measured is through information reported by students themselves. A few studies have used summative rating scales to measure student engagement levels. These may include teacher report scales. Evidence of higher-order problem solving and metacognitive learning strategies may be gathered form sources such as student projects, portfolios, performances, and other demonstrations. The efficacy of these methods depends on the use of suitably structured tasks and scoring rubrics. Focused case studies can collect detailed descriptive accounts of engagement rates. Teachers interested in assessing student engagement in the classroom should consider using separate measures to get at cognitive, affective, and behavioral aspects of task engagement. (Contains 18 references.) (SLD)

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# Assessing Student Engagement Rates

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## Assessing Student Engagement Rates

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Given the emphasis placed on levels of academic achievement in schools, the way in which students acquire knowledge through the learning process has become a primary concern. Several studies have highlighted the significant role that affective factors can play in learning (e.g., Mathewson, 1994; Wigfield, 1997), placing particular emphasis on student engagement. This Digest defines student engagement and describes various methods used to measure it, both in empirical research studies and at the classroom level.

**What Is Student Engagement?**

Early studies of student engagement often focused on time-on-task behaviors (e.g., Fisher, et al., 1980; Brophy, 1983). More recently, however, other definitions have appeared in the literature. Student engagement has been used to depict students' willingness to participate in routine school activities, such as attending classes, submitting required work, and following teachers' directions in class. For example, Natriello (1984) defined student engagement as "participating in the activities offered as part of the school program" (p.14). Negative indicators of engagement in this study included unexcused absences from classes, cheating on tests, and damaging school property.

Another definition focuses on more subtle cognitive, behavioral, and affective indicators of student engagement in specific learning tasks. This orientation is reflected well in the definition offered by Skinner & Belmont (1993):

Children who are engaged show sustained behavioral involvement in learning activities accompanied by a positive emotional tone. They select tasks at the border of their competencies, initiate action when given the opportunity, and exert intense effort and concentration in the implementation of learning tasks; they show generally positive emotions during ongoing action, including enthusiasm, optimism, curiosity, and interest. The opposite of engagement is disaffection. Disaffected children are passive, do not try hard, and give up easily in the face of challenges…[they can] be bored, depressed, anxious, or even angry about their presence in the classroom; they can be withdrawn from learning opportunities or even rebellious towards teachers and classmates. (p. 572.)

From a different perspective, Pintrich and & De Groot (1990) associated engagement levels with students' use of cognitive, meta-cognitive and self-regulatory strategies to monitor and guide their learning processes. In this view, student engagement is viewed as motivated behavior apparent from the kinds of cognitive strategies students choose to use (e.g., simple or "surface" processing strategies isuch as rehearsal versus "deeper" processing strategies such as elaboration), and by their willingness to persist with difficult tasks by regulating their own learning behavior.

Use of cognitive and meta-cognitive strategies (e.g., I went back over things I didn't understand" and "I tried to figure out how today's work fit with what I had learned before") may be taken to indicate active task engagement, while use of shallow strategies (e.g., "I skipped the hard parts") may be taken to indicate superficial engagement (Meece, Blumefield, and Hoyle, 1988).

**How Is Student Engagement Measured?**

The most common way that student engagement is measured is through information reported by the students themselves. Other methods include checklists and rating scales completed by teachers, observations, work sample analyses, and case studies. Each of these methods is described briefly below.

***Self-Reports***. Students may be asked to complete surveys or questionnaires regarding their level of task engagement. Items relating to the cognitive aspects of engagement often ask students to report on factors such as their attention versus distraction during class, the mental effort they expend on these tasks (e.g., to integrate new concepts with previous knowledge), and task persistence (e.g., their reaction to perceived failure to comprehend the course material). Students can also be asked to report on their response levels during class time (e.g., making verbal responses within group discussions, looking for distractions, and engaging in non-academic social interaction) as an index of behavioral task engagement. Affective engagement questions typically ask students to rate their interest in and emotional reactions to learning tasks on indices such as choice of activities (e.g., selection of more versus less challenging tasks), the desire to know more about particular topics, and feelings of stimulation or excitement in beginning new projects.

In addition to asking the question of whether students are engaged in learning tasks, self-report measures can provide some indication of why this is the case. Research into achievement goal orientations, for example, has indicated positive relationships between task or mastery goals, which reflect a desire for knowledge or skill acquisition, and students' use of effective learning strategies (e.g., Covington, 2000). Studies have also demonstrated positive relationships between students' perceived learning control and adaptive learning processes (e.g., Strickland, 1989; Thompson et al., 1998).

***Checklists and Rating Scales***. In addition to student self-report measures, a few studies have used summative rating scales to measure student engagement levels. For example, the teacher report scales used by Skinner & Belmont (1993) asked teachers to assess their students' willingness to participate in school tasks (i.e., effort, attention, and persistence during the initiation and execution of learning activities, such as "When faced with a difficult problem, this student doesn't try"), as well as their emotional reactions to these tasks (i.e., interest versus boredom, happiness versus sadness, anxiety and anger, such as "When in class, this student seems happy"). The Teacher Questionnaire on Student Motivation to Read developed by Sweet, Guthrie, & Ng (1996) asks teachers to report on factors relating to student engagement rates, such as activities (e.g., enjoys reading about favorite activities), autonomy (e.g., knows how to choose a book he or she would want to read), and individual factors (e.g., is easily distracted while reading).

***Direct Observations***. Although self-report scales are widely used, the validity of the data yielded by these measures will vary considerably with students' abilities to accurately assess their own cognitions, behaviors, and affective responses (Assor & Connell, 1992). Direct observations are often used to confirm students' reported levels of engagement in learning tasks. A number of established protocols are available in this area (e.g., Ellett & Chauvin, 1991). Most of these observational studies have used some form of momentary time sampling system. In these methods, the observer records whether a behavior was present or absent at the moment that the time interval ends or else during a specific time period.

In classwide observations, approximately 5 minutes of observational data can generally be collected on each target student per lesson. Thus, a 30-minute observation period would allow observations of approximately 5 target students, with 6 to 7 sessions being required to observe a full class. In addition, to obtain a representative sample of students' behavior over the full course of a lesson, observations are generally rotated across students so that each student is observed continuously for only one minute at a time.

***Work Sample Analyses***. Evidence of higher-order problem-solving and metacognitive learning strategies can be gathered from sources such as student projects, portfolios, performances, exhibitions, and learning journals or logs (e.g., Royer, Cisero, & Carlo, 1993; Wolf, et al., 1990). The efficacy of these methods hinges on the use of suitably structured tasks and scoring rubrics. For example, a rubric to assess the application of higher-order thinking skills in a student portfolio might include criteria for evidence of problem-solving, planning, and self-evaluation in the work. A number of formal and informal protocols for assessing students' self-regulated learning strategies also incorporate components that focus on metacognitive skills (e.g., Pintrich & DeGroot, 1990; Ward & Traweek, 1993). The Metacognitive Knowledge Monitoring Assessment and the Assessment of Cognitive Monitoring Effectiveness are more targeted measures suitable for use in classroom situations and with demonstrated sound psychometric properties in empirical evaluations (Osborne, 2001).

***Focused Case Studies***. When the focus of an investigation is restricted to a small group of target students, it is often more useful to collect detailed descriptive accounts of engagement rates. Case studies allow researchers to address questions of student engagement inductively by recording details about students in interaction with other people and objects within classrooms. These accounts should describe both students' behaviors and the classroom contexts in which they occur. This might include, for example, the behavior of peers, direct antecedents to the target student's behaviors (e.g., teacher directions), as well as the student's response and the observed consequences of that response (e.g., reactions from teachers or peers). Case studies generally attempt to place observations of engagement within the total context of the classroom and/or school, and are concerned as much with the processes associated with engagement as they are in depicting engagement levels.

Teachers interested in assessing student engagement in the classroom should consider using separate measures to get at the cognitive, affective, and behavioral aspects of task engagement. Within each of these domain areas, using a range of methods can also strengthen the validity of findings and provide alternative perspectives on the results. Teachers may wish to include measures that address the question of why students do, or do not, engage with particular types of tasks. Clearly, however, final decisions on protocol components must also take into account any practical constraints within the given context.

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